Velocitykvm T-Series

High Reliability, Rack-Space Saving, Video and Audio Extension Solutions

T-4200 Modular Chassis
KVM Extension Solution

PRODUCT MANUAL

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Subject: VelocityKVM T-4200 Chassis Product Manual
Revision: A, September, 2011

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PREFACE

Conventions Used in this Manual

As you read this manual you will notice certain conventions that bring your attention to important information. These are **Notes** and **Warnings**. Examples are shown below.

Note: Important Notes appear in blue text preceded by a yellow exclamation point symbol, like this.

A note is meant to call the reader"s attention to **helpful information** at a point in the text that is relevant to the subject being discussed.

Warning! All Warnings appear in red text, followed by blue text, and preceded by a red stop sign, like this.

A warning is meant to call the reader"s attention to **critical information** at a point in the text that is relevant to the subject being discussed.

BEFORE STARTING ANY PROCEDURE, IT IS RECOMMENDED THAT YOU READ THE INSTRUCTIONS THOROUGHLY!

The VelocityKVM T-4200 Chassis

Powered by
MRTS Technology

1. THE T-4200 MODULAR CHASSIS

The Logical Solution: *Modular KVM Extension / DVI and SDI Support in One Unit*

The VelocityKVM line of extenders continues to evolve and add value with exciting new capabilities. The **VelocityKVM T-4200 Chassis** is a high reliability, rack-space-saving solution housing the same capabilities in a 1U chassis that used to require 2U. Featuring a dual interface and current sharing power supplies, each 1U chassis supports two separate interface modules, allowing users to combine module options within one chassis.

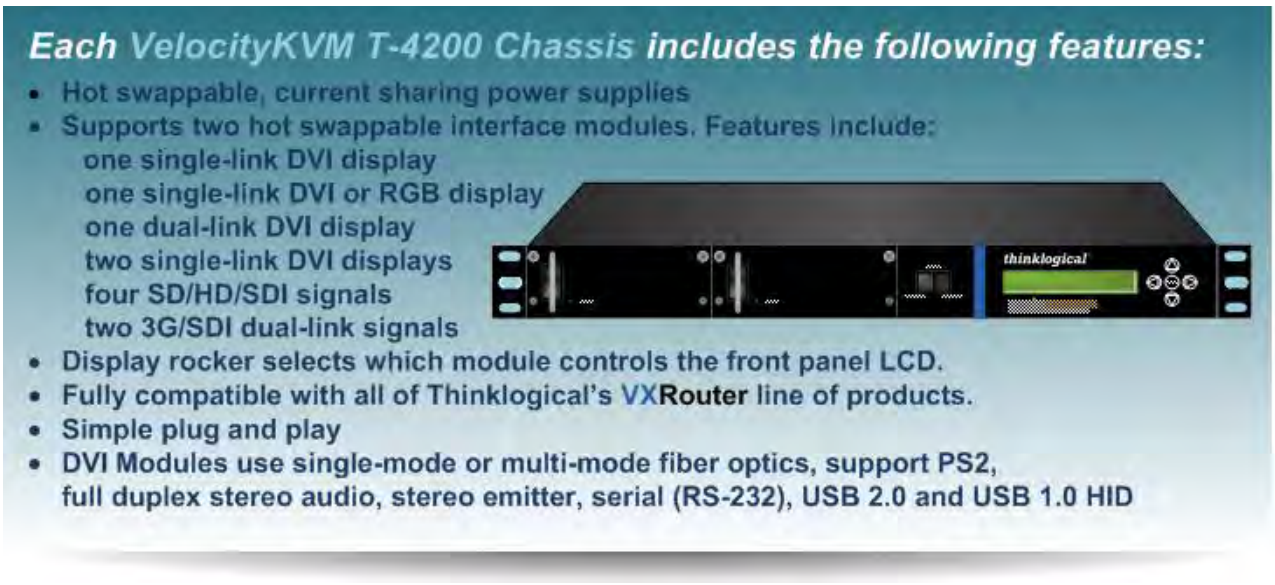
Available modules support a variety of video display options and **all modules support PS2, full duplex stereo audio, stereo emitter, serial (RS-232), USB 2.0** (up to 480 Mbps) **and/or USB 1.0 HID**.

Using multi-mode or single-mode fiber, the system allows users to securely locate a display device and peripherals up to 40 kilometers away from the controlling computer without loss of resolution.

Powered by Thinklogical's cutting edge
MRTS Technology (Multi Rate Transmission System),
each module seamlessly transports every frame of a DVI, SDI or RGB
video stream with no compression or dropped frames.
Powered by
MRTS Technology

In addition, all high-speed peripherals function with no latency, making it ideally suited for a wide range of applications in the broadcast and post-production field, command and control centers, universities, air traffic control, energy production and exploration, and most other commercial KVM applications.

1.1 System Features


Each VelocityKVM T-4200 Chassis includes the following features:
• Hot swappable, current sharing power supplies
• Supports two hot swappable interface modules. Features include:
one single-link DVI display
one single-link DVI or RGB display
one dual-link DVI display
two single-link DVI displays
four SD/HD/SDI signals
two 3G/SDI dual-link signals
thinklogical
• Display rocker selects which module controls the front panel LCD.
• Fully compatible with all of Thinklogical's VXRouter line of products.
• Simple plug and play
• DVI Modules use single-mode or multi-mode fiber optics, support PS2,
full duplex stereo audio, stereo emitter, serial (RS-232), USB 2.0 and USB 1.0 HID

1.2 Technical Specifications

Each Thinklogical VelocityKVM system is designed to the following specifications:

Operating Temp and Humidity	**0° to 50°C (32° to 122 °F), 5% to 95% RH, non-condensing**
Dimensions	**Rack size: EIA 19”** **Height: 1.79” (4.5cm) ± .039”; .100cm** **Depth: 14.02” (35.6cm)* ± .039”; .100cm** **Width: 17.49” (44.5cm) ± .039”; .100cm**
Weights	**Weight: 11 lbs (4.99kg) each** **Shipping Weight: 27 lbs (12.25 kg) Transmitter and Receiver**
Supply Voltage	**100-240 VAC, 47-63 Hz, Universal AC power supply**
Power Consumption	**<40 Watts per unit**
Compliance	**Approvals for US, Canada, and European Union**
Warranty	**12 months from date of purchase. Extended warranties available.**

1.3 HARDWARE

1.3.1 Physical Connections

All physical connections to the product use industry-standard connectors. Non-supplied cables are commercially available. All connections are found on the rear of the unit.

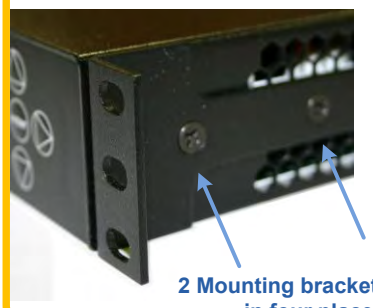
1.3.2 Desktop or Rack Mount

You may choose to place your chassis on a shelf or desktop (rubber feet included), or rack-mount it using the supplied mounting brackets (EIA 19” rack mountable).

See FIGURE 1, page 7, Mounting Bracket Removal.

- The front panel should be visible and unobstructed so that the front panel buttons and LCD display are accessible.
- All connections are made to the rear of the chassis.
- The VelocityKVM Extender chassis does not need to be opened or accessed.
- The sturdy metal case allows units to be stacked as needed **(maximum of 4 units per stack, with a minimum of 2” clearance between stacks for adequate ventilation)**.

RACK-MOUNT OR DESK-TOP OPTIONS: All Thinklogical KVM extenders can be mounted in a standard EIA 19" rack or on a shelf or desk-top.



Each mounting bracket is secured by four screws and can be safely removed from the transmitter or receiver unit for desk-top mounting after power has been removed from the unit.
All screws should be reinstalled after the brackets have been removed.

Mounting bracket removal.

1.3.3 Cooling

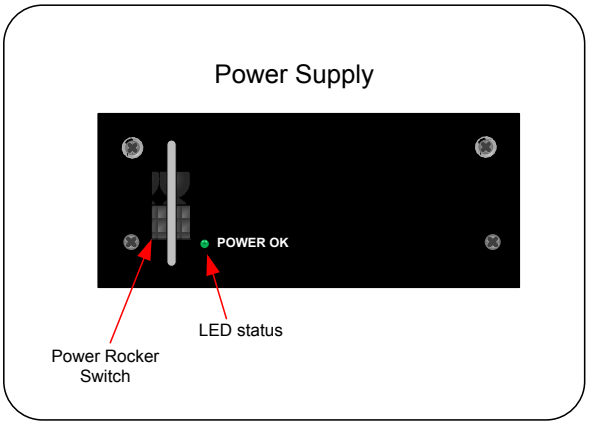
The Velocity T-4200 Extender System uses four DC fans to move air horizontally through the enclosure.

Note: Be sure to leave adequate ventilation space on both sides of the units (2" minimum), especially if the units are being stacked (maximum 4 units per stack).

1.3.4 Hot Swappable Power Supplies

Each chassis is equipped with dual, hot-swappable, current-sharing power supply modules. Each module has an ON/OFF rocker power switch. When the power supply is ON the LED on the front of the power supply will be lit.

If a power module fails, the replacement can be swapped with no interruption in unit functionality. To hot swap a power supply, simply unscrew the module and replace it with a new power supply module. *(Power Modules can be ordered from Thinklogical: part number* VTM-000001).



Power Supply Module Switch and Status LED.

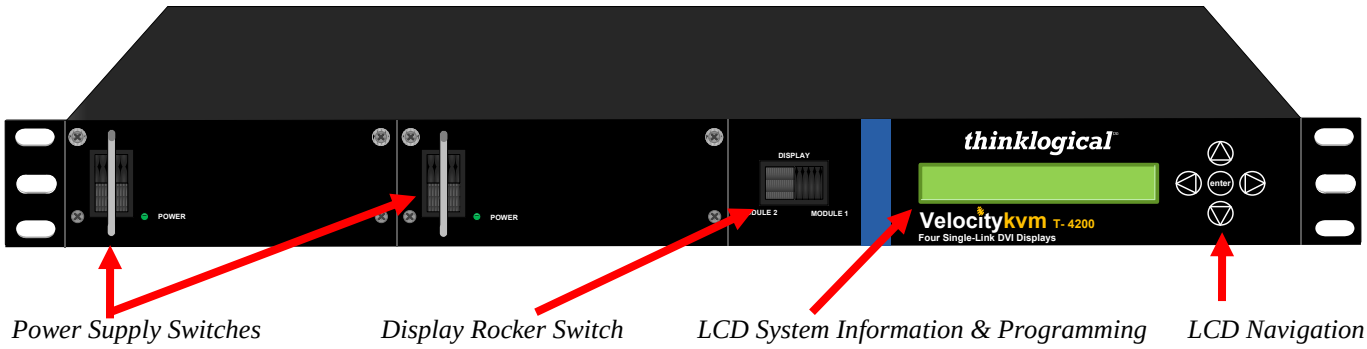
1.3.5 Display Rocker Switch

The *Display* rocker switch located on the front of the chassis selects which module information is shown on the LCD. Switched to the right or left, it will show the information for the module located on that side of the chassis. If there is only one module installed, it will display that module's information in either rocker switch position.

1.3.6 Front Panel Display and Buttons

Note: When you receive your T-4200 Chassis, there will be a removable decal that identifies each module of your specific configuration located on the front panel display.

The front-panel LCD display should be visible and accessible for system setup. The front panel buttons are used to configure special video settings and to review existing VelocityKVM Extender configurations. *See **Paragraph 3, Front Panel Usage** below, for more information on using the buttons and LCD.*



The T-4200 Front Panel

2. Firmware Upgrades

Firmware upgrades are available through Thinklogical. Please call us for technical assistance at:

1-203-647-8700.

To update the Chassis firmware, use the **KM download** described below. To update a module's FPGA, go to **Allow FPGA Update** under the ***System** menu. Select **Yes** and load the update through the back panel USB port using the **FPGA Update**, also described below.

Transmitter Upgrade: USB Cable from CPU to CTRL Port

KVM Download Procedure:

Firmware files and revision numbers are stored in the following:

http://ftp.thinklogical.com/ftp/visualization/updates/Firmware.zip

The KM_Download.exe application and instructions are stored in:
http://ftp.thinklogical.com/ftp/visualization/updates/KmDownloadVxxx.zip
(where „Vxxx" is the version number).

Firmware Update Preparation:

1. Retrieve the *Firmware files/revision numbers* and the *KM_Download application/instructions* and place them in an accessible directory in your CPU.
2. Install the **KmDownload** application (in KMDownloadVxxx.zip file) by running **setup.exe**.
3. Unzip the **Firmware.zip** file and place the contents in an accessible directory in your CPU.
4. Have a copy of the instructions and latest versions available for comparison after the update is complete.

FPGA Download Procedure:

Firmware files and revision numbers are stored in the following:
http://ftp.thinklogical.com/ftp/visualization/updates/FPGA.Firmware.zip

The **FPGA_Download.exe** application & instructions are stored in:
http://ftp.thinklogical.com/ftp/visualization/updates/FPGA_Upgrade.zip

FPGA Update Preparation:

1. Retrieve the ***Firmware files/revision numbers*** and the ***FPGA_Download application /instructions*** and place them in an accessible directory in your CPU.
2. Copy the file **FPGA_firmware.zip** to a local directory and extract to a desired location.
3. Copy the file **FPGA_upgrade.zip** to a local directory.
4. Install **setup.exe** in **FPGA_upgrade.zip**.
5. Have a copy of the instructions and latest versions available for comparison after the update is complete.

3. Front Panel Usage

3.1 Initial Power-Up

Once the system is powered up, the initial Transmitter display is shown as follows:

The company name is listed on the first line of the display. The model and software version (VXX.XX) of the unit is displayed on the second line.

By pressing the down arrow the VelocityKVM Extender allows you to enter into the main menu. **The main root menu items are displayed with an *.** They are as follows:

Once a * root menu item is displayed, you can then use the left arrow or right arrow to review settings or make changes, if allowed.

The VelocityKVM Extender menu functionality is as follows (some menu options may not be available on all models):

TRANSMITTER:

Display	Modifiable	Description
***System**		
LS Connected	NO	An indication of the fiber status from the TX to RX.
Tx Ctrl Name	TX Only	Name entered on TX unit is displayed on RX unit.
Load Defaults	YES	Loads factory default video configurations.
Store Values	YES	Store video configurations.
KM Device	NO	Revision of the Velocity portion that plugs into CPU.
KM Remote Host	NO	Revision of the Velocity KM Host on the RX unit.
KM Local Host	NO	Revision of the Velocity KM Host on the TX unit.
TX Control	NO	Revision of the TX unit laser and front panel control.
RX Control	NO	Revision of the RX unit laser and front panel control.
FPGA Version	NO	Revision of the FPGA used for video generation.
Serial Number	NO	2 digits each for DDMMYY and 2 or 3 unique digits
Debug Values	YES	Factory Use.
SFP Loss of Signal	NO	Indicates loss of SFP signal
Temp in Celsius	NO	IN=PCB temp (max=70) EX=FPGA temp (max=85)
KMASS Card ID	NO	
Video Card ID	NO	
USB 2.0 Card ID	NO	

Display	Modifiable	Description
***DDC**		
DDC PROM Emula. Mode	YES	Options are Dynamic, Static and Passthru. In **Dynamic mode**, the DDC of the monitor connected to the RX is read and stored on the TX. The CPU is informed of a change in DDC and the monitor is read. This is useful when the CPU can be turned on without a connection to the RX. **Static mode** is used to maintain the current DDC regardless of monitor changes at the RX. **Passthru mode** makes the DDC pins look like direct connections between the TX and RX, allowing the computer to talk directly to the monitor.
Load Default DDC	YES	Loads the default DDC stored in the application which allows 1024x768. This puts the TX into static mode.
Acquire DDC	YES	Gets the DDC table of the unit attached, stores the information and puts the TX in static mode.
Force DDC Mode	YES	Used to force the DDC of a monitor to appear as either digital or analog. Since Velocity products can convert between analog and digital, sometimes the DDC has to be modified to match the method of connecting the TX to CPU.

RECEIVER:

Display	Modifiable	Description
***System**		
LS Connected	NO	An indication of the fiber status from the TX to RX.
Tx Ctrl Name	TX Only	Name entered on TX unit is displayed on RX unit.
KM Device	NO	Revision of the Velocity portion that plugs into CPU.
KM Remote Host	NO	Revision of the Velocity KM Host on the RX unit.
KM Local Host	NO	Revision of the Velocity KM Host on the TX unit.
TX Control	NO	Revision of the TX unit laser and front panel control.
RX Control	NO	Revision of the RX unit laser and front panel control.
FPGA Version	NO	Revision of the FPGA used for video generation.
Serial Number	NO	2 digits each for DDMMYY and 2 or 3 unique digits
Debug Values	YES	Factory Use.
SFP Loss of Signal	NO	Indicates loss of SFP signal
Temp in Celsius	NO	IN=PCB temp (max=70) EX=FPGA temp (max=85)
KMASS Card ID	NO	
Video Card ID	NO	
USB 2.0 Card ID	NO	

Display	Modifiable	Description
***PS2 Devices**		
PS2 KB Scan	NO	Value of 1, 2 or 3 for the scan code. 0= not properly connected to the CPU.
PS2 Mouse Mode	NO	Value of 0, 3 or 4 for the mode. 255= mouse not properly connected to the CPU.

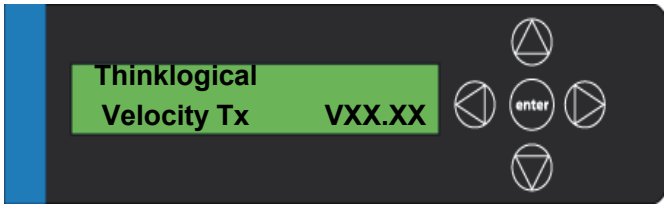
Display	Modifiable	Description
***USB Country Code**		
USB Country	NO	The country code of the USB KB that the unit reports itself as being. This is the last USB KB country applied to the remote host. Most hardware is not localized and thus this value would be zero (0), which is displayed as "Not Supported"
USB Device Enum	NO	A bit pattern that indicates which ports have been enumerated at the Velocity device side. The bits are laid out as Bit0=KB, Bit1=MS, Bit2=TBLT, Bit3=DWNLD, Bit4=Daughter Card_KB, Bit5=Daughter_MS, Bit6=Daughter_TBLT.

Display	Modifiable	Description
***DDC**		
DDC PROM Emula. Mode	YES	Options are Dynamic, Static and Passthru. In **Dynamic mode**, the DDC of the monitor connected to the RX is read and stored on the TX. The CPU is informed of a change in DDC and the monitor is read. This is useful when the CPU can be turned on without a connection to the RX. **Static mode** is used to maintain the current DDC regardless of monitor changes at the RX. **Passthru mode** makes the DDC pins look like direct connections between the TX and RX, allowing the computer to talk directly to the monitor.
Load Default DDC	YES	Loads the default DDC stored in the application which allows 1024x768. This puts the TX into static mode.
Acquire DDC	YES	Gets the DDC table of the unit attached, stores the information and puts the TX in static mode.
Force DDC Mode	YES	Used to force the DDC of a monitor to appear either digital or analog. Since Velocity products can convert between analog and digital, sometimes the DDC has to be modified to match the method of connecting the TX to CPU.

Display	Modifiable	Description
***Video**		
Video Tx 1 cnt.	NO	Video IN 1 pixel sample clock (TX)
Video Rx 1 cnt.	NO	Video IN 1 pixel sample clock (RX)
Video Tx 2 cnt.	NO	Video IN 2 pixel sample clock (TX)
Video Rx 2 cnt.	NO	Video IN 2 pixel sample clock (RX)
TX 1 Stream Info	NO	Video Channel 1 ID
TX 2 Stream Info	NO	Video Channel 2 ID
PropConst	YES	Factory default setting for debug
IntegConst	YES	Factory default setting for debug

3.2 Saving Changes

Save video configurations so that after powering up, the device can recall customer video settings.

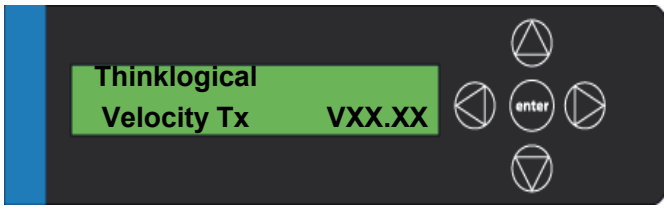


Using the down arrow, scroll down to ***System** as shown below.

Using the right arrow, scroll right until **Store Values** is displayed as shown below, then press **enter**.

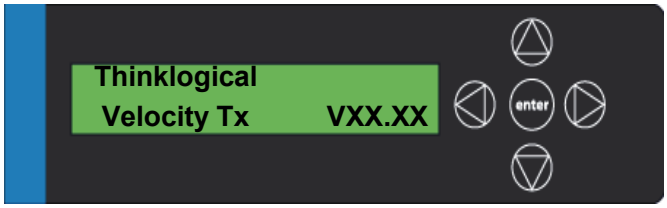
Using the up arrow or down arrow scroll until **Yes** appears as shown below. Then press **enter**.

Using the right arrow or left arrow scroll until you return to the ***System** menu option. Using up arrow or down arrow, scroll until you get to the **Thinklogical** screen as shown below.



3.3 Restoring Factory Defaults

Load factory default video configurations.



Using the down arrow, scroll down to ***System** as shown below.

Using the right arrow button, scroll right until **Load Defaults** is displayed as shown below. Then press **enter**.

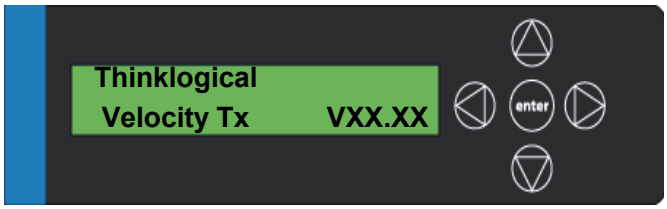
Using the up arrow or down arrow, scroll until **Yes** appears as shown below. Then press **enter**.

Follow these steps to save your changes:

Using the down arrow, scroll down to ***System**.
Using the right arrow, scroll right until **Store Values** is displayed. Then press **enter**.
Using the up or down arrow, scroll until **Yes** appears. Then press **enter**.
Using the right or left arrow, scroll to return to the ***System** menu option.
Using up or down arrow, scroll until you get to the **Thinklogical** screen.

3.4 Naming the Transmitter Unit

Modify the name of the unit through the Transmitter. The name entered on the Transmitter will display on the Receiver unit.



Using the arrow down button, scroll down to ***System** as shown below.

Using the right arrow, scroll right until **Tx Ctrl** is displayed as shown below. Then press **enter**.

Using the right or left arrow, scroll until the blinking cursor is under the letter/number you want to change.

Using the up or down arrow, scroll (holding down the up or down arrow will scroll faster) until you find the appropriate letter/number. Then press **enter.**

Using the right or left arrow, scroll to return to the ***System** menu option.

Follow the steps below to save your changes:

1. Using the down arrow, scroll down to ***System**.
2. Using the right arrow, scroll right until **Store Values** is displayed. Then press **enter**.
3. Using the up or down arrow, scroll until **Yes** appears. Then press **enter**.
4. Using the right or left arrow, scroll to return to the ***System** menu option.
5. Using up or down arrow, scroll until you get to the **Thinklogical** screen.

4. Regulatory & Safety Compliance

4.1 Safety Requirements

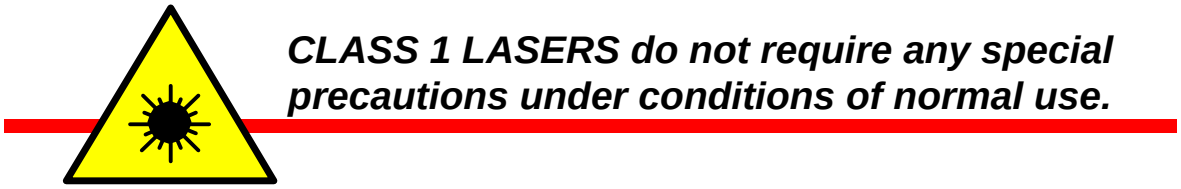
4.1.1 Symbols found on the product

Markings and labels on the product follow industry-standard conventions. Regulatory markings found on the products comply with domestic and many international requirements.

4.1.2 Regulatory Compliance

Thinklogical‟s VelocityKVM Extender products are designed and made in the U.S.A. and have been tested by a certified testing laboratory and found to be compliant with the following standards (both domestic USA and many international locations):

All T-4200 modules are designed and identified as **Class 1 LASER products.**



CLASS 1 LASERS do not require any special precautions under conditions of normal use.

North America

Safety

ANSI/UL60950-1: 1st Edition (2003)

CAN/CSA C22.2 No. 60950-1-03

LASER Safety

CDRH 21CFR 1040.10

Class 1 LASER Product

Electromagnetic Interference

FCC CFR47, Part 15, Class A

Industry Canada ICES-003 Issue 2, Revision 1

Australia & New Zealand

This is a Class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

European Union

Declaration of Conformity

Manufacturer"s Name & Address: **Thinklogical LLC**
100 Washington Street
Milford, Connecticut 06460 USA
Telephone 1-203-647-8700

These products comply with the requirements of the Low Voltage Directive 72/23/EEC and the EMC Directive 89/336/EEC.

4.1.3 Standards with Which Our Products Comply

Safety

CENELEC EN 60950-1, 1st Edition (2001)

LASER Safety

IEC60825:2001 Parts 1 and 2

Class 1 LASER Product

Electromagnetic Emissions

EN55022: 1994 (IEC/CSPIR22: 1993)

EN61000-3-2/A14: 2000

EN61000-3-3: 1994

Electromagnetic Immunity

EN55024: 1998 Information Technology Equipment-Immunity Characteristics

EN61000-4-2: 1995 Electro-Static Discharge Test

EN61000-4-3: 1996 Radiated Immunity Field Test

EN61000-4-4: 1995 Electrical Fast Transient Test

EN61000-4-5: 1995 Power Supply Surge Test

EN61000-4-6: 1996 Conducted Immunity Test

EN61000-4-8: 1993 Magnetic Field Test

EN61000-4-11: 1994 Voltage Dips & Interrupts Test

4.2 Supplementary Information

The following statements may be appropriate for certain geographical regions and might not apply to your location.

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigencies du Règlement sur le matérial brouilleur du Canada.

Warning! This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take corrective measures.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications in which case the user may be required to take adequate corrective measures at their own expense.

Note: This Class A digital apparatus complies with Canadian ICES-003 and has been verified as being compliant within the Class A limits of the FCC Radio Frequency Device Rules (FCC Title 47, Part 15, Subpart B CLASS A), measured to CISPR 22: 1993 limits and methods of measurement of Radio Disturbance Characteristics of Information Technology Equipment.

Note: The user may notice degraded audio performance in the presence of electromagnetic fields.

Note: If using a keyboard that is noise susceptible, a ferrite ring on the keyboard cable may be needed to comply with Immunity Requirements

4.2.1 Product Serial Number

The T-4200 has a unique serial number printed on an adhesive label that is fixed to the bottom of the chassis. The serial number includes a date-code. The format for the date-code is 2 digits for the month, 2 digits for the day and 2 digits for the year, plus two or three digits for a unique unit number. This serial number is also found on the original shipping carton.

4.2.2 Connection to the Product

Connections and installation hardware for our products use industry-standard devices and methods. All wiring connections to the customer equipment are designed to minimize proprietary or customized connectors and cabling. Power connections are made with regionally appropriate power cords and approved methods.

5. How to Contact Us

5.1 Customer Support

Thank you for choosing Thinklogical® products for your application.
We appreciate your business and are dedicated to helping you successfully use our products.
thinklogical® is always here to help you.
To contact us, please use the following telephone numbers and internet-based methods:

Thinklogical is an engineering company and you will receive the information you require directly from our most knowledgeable engineers. We believe that the first lines of support are the design engineers that developed the product. Therefore, your questions will be handled promptly by our in-house engineers who are most familiar with your products.

To contact Thinklogical, use the following telephone numbers and internet-based methods:

Website

Visit our website for specific product information, current updates and our complete line of products at **www.thinklogical.com**.

Our internet website offers product information on all current systems, including technical specification sheets and installation guides (for viewing online or for download), product diagrams showing physical connections and other helpful information.

Note: Most online documents are stored as Adobe Acrobat "PDF" files. If you do not have the Adobe Acrobat reader needed to view PDF files, visit www.adobe.com for a download.

Email

Thinklogical is staffed **Monday through Friday from 8:30am to 5:00pm**, Eastern Time Zone. We will make every effort to respond to your email inquiries promptly. Please use the following email addresses for any of your concerns:

info@thinklogical.com – Information on Thinklogical and our products.

sales@thinklogical.com – Sales Department - orders, questions or issues.

support@thinklogical.com – Product support, technical issues or questions, product repairs and request for Return Authorization.

Telephone

Telephone Sales: Contact our expert sales staff via telephone in Milford, CT at **1-203-647-8700** or if in the continental USA, you may use our **toll-free number 1-800-291-3211**. We are here Monday through Friday from 8:30am to 5:00pm, Eastern Time Zone. Ask for your representative"s direct dial phone number when you call.

Telephone Product Support: Contact Product Support via telephone in Milford, CT at **1-203-647-8700**. The support lines are manned Monday through Friday, 8:30am to 5:00pm, Eastern Time Zone.

International Sales: Please contact our US sales staff in Milford, CT at **1-203-647-8700**. We are here Monday through Friday, 8:30am to 5:00pm, Eastern Time Zone (same as New York City). If leaving a voice message please let us know when we can reach you at your convenience.

Our switchboard attendant will direct your call during regular business hours. We have an automated attendant answering our main telephone switchboard after regular business hours and holidays. You can leave voice messages for individuals at any time. Our Sales Representatives have direct numbers for prompt service.

Fax

Our company facsimile number is **1-203-783-9949**. Please indicate the nature of the fax on your cover sheet and provide return contact information.

5.2 Product Support

Thinklogical"s support personnel are available **Monday through Friday from 8:30am to 5:00pm**, Eastern Time Zone. If your application requires assistance at some time outside of our normal business hours, please contact us beforehand and we will do our best to make arrangements to help you with your Thinklogical products.

5.2.1 Warranty

Thinklogical warrants this product against defects in materials and workmanship for a period of one year from the date of delivery. Thinklogical and its suppliers disclaim any and all other warranties.

Note: Thinklogical LLC products carry a one year warranty with longer term available at time of purchase on most products. Please refer to your product invoice for your product's Warranty Terms & Conditions.

Defect remedy shall be the repair or replacement of the product, provided that the defective product is returned to the authorized dealer within a year from the date of delivery.

If you wish to return your device, contact the Thinklogical authorized dealer where you purchased the device, or if you purchased directly, call Thinklogical at **1-800-291-3211** (USA).

5.2.2 Return Authorization

In the event you must return a product to Thinklogical directly:

Contact **Customer Support** at **1-800-291-3211** or **1-203-647-8700**.

Customer Support will ask you to describe the problem and will issue you a **R**eturn **M**erchandise **A**uthorization number (RMA#).

Pack the device in its original box, if possible, and return it with the RMA# on the box.

Note: DO NOT return a product to Thinklogical without a *Return Material Authorization*.

Return address for products with Return Material Authorization:

Thinklogical® LLC
Attn: RMA#
100 Washington Street
Milford, CT 06460 USA

Phone: 1-800-291-3211 (USA only)

Our Address

If you have an issue with a product, have product questions or need technical assistance with any of your Thinklogical equipment, please call us at **1-800-291-3211** (USA only) or **1-203-647-8700** and let us help. If you'd like to write us, our mailing address is:

Thinklogical® LLC
100 Washington Street
Milford, CT 06460 USA

Appendix A- VelocityKVM T-Series Ordering Information

Part Numbers and Descriptions

Velocity T-4200 CHASSIS

VTS-004200 Velocity T-4200 CHASSIS

DVI MODULES

Velocity T-Series DVI Modules

VTM-U00004-LCRX VelocityKVM T-Series Receiver, Single Head, Single Link DVI, USB 2.0, KMAS, LC
VTM-U00004-LCTX VelocityKVM T-Series Transmitter, Single Head, Single Link DVI, USB 2.0, KMAS, LC
VTM-U00005-LCRX VelocityKVM T-Series Receiver, Single Head, Single Link RGB/DVI, USB 2.0, KMAS, LC
VTM-U00005-LCTX VelocityKVM T-Series Transmitter, Single Head, Single Link RGB/DVI, USB 2.0, KMAS, LC
VTM-U00008-LCRX VelocityKVM T-Series Receiver, Single Head, Dual Link DVI, USB 2.0, KMAS, LC
VTM-U00008-LCTX VelocityKVM T-Series Transmitter, Single Head, Dual Link DVI, USB 2.0, KMAS, LC
VTM-U00024-LCRX VelocityKVM T-Series Receiver, Dual Head, Single Link DVI, USB 2.0, KMAS, LC
VTM-U00024-LCTX VelocityKVM T-Series Transmitter, Dual Head, Single Link DVI, USB 2.0, KMAS, LC
VTM-H00004-LCRX VelocityKVM T-Series Receiver, Single Head, Single Link DVI, KMAS, LC
VTM-H00004-LCTX VelocityKVM T-Series Transmitter, Single Head, Single Link DVI, KMAS, LC
VTM-H00005-LCRX VelocityKVM T-Series Receiver, Single Head, Single Link RGB/DVI, KMAS, LC
VTM-H00005-LCTX VelocityKVM T-Series Transmitter, Single Head, Single Link RGB/DVI, KMAS, LC
VTM-H00008-LCRX VelocityKVM T-Series Receiver, Single Head, Dual Link DVI, KMAS, LC
VTM-H00008-LCTX VelocityKVM T-Series Transmitter, Single Head, Dual Link DVI, KMAS, LC
VTM-H00024-LCRX VelocityKVM T-Series Receiver, Dual Head, Single Link DVI, KMAS, LC
VTM-H00024-LCTX VelocityKVM T-Series Transmitter, Dual Head, Single Link DVI, KMAS, LC

Single Mode Optics Option (DVI Modules)

VOP-S04 Velocity 4/5 T-Series Optics Option for Transmitter or Receiver, Single Mode, 3 Fibers, 40KM, LC
VOP-S06 Velocity 8/24 T-Series Optics Option for Transmitter or Receiver, Single Mode, 3 Fibers, 40KM, LC

Multi-Mode Optics Option (DVI Modules)

VOP-M19 Velocity 4/5 T-Series Optics Option for Transmitter or Receiver, Multi-Mode, 3 Fibers, 1000M, LC
VOP-M30 Velocity 8/24 T-Series Optics Option for Transmitter or Receiver, Multi-Mode, 3 Fibers, 1000M, LC

SDI MODULES

Velocity T-Series SDI Modules

STM-C1C1X2-LCRX SDIXtreme 3G+ T-4200 Dual Receiver Module with 2 SFPs and 2 Pairs of SDI Outputs, LC
STM-L1C1X2-LCTR SDIXtreme 3G+ T-4200 Transceiver Module:
TX: 1 Input with Loop-out and 1 SFP, LC
RX: 2 SDI Outputs and 1 SFP, LC
STM-L1L1X2-LCTX SDIXtreme 3G+ T-4200 Dual Transmitter Module with 2 Inputs, 2 Loop Outs and 2 SFPs, LC

Single Mode Optics Option (SDI Modules)

VOP-S29 SDIXtreme 3G+ Optics Option for Transmitter or Receiver, Single Mode, 3 Fibers, 4KM, LC
VOP-S30 SDIXtreme 3G+ Optics Option for Transmitter or Receiver, Single Mode, 3 Fibers, 10KM, LC
VOP-S58 SDIXtreme 3G+ Optics Option for Transmitter or Receiver, Single-Mode, 3 Fibers, 30M, LC

Multi-Mode Optics Option (SDI Modules)

VOP-M21 SDIXtreme 3G+ Optics Option for Transmitter or Receiver, Multi-Mode, 3 Fibers, 1000M, LC

Appendix B- Thinklogical KVM Extenders

The Logical Solution

VelocityKVM Extension Systems are designed for high performance visual applications that require video as well as peripheral support. (VelocityKVM Extension System-5 supports DVI or RGB.) The system allows users, via optical fiber, to station and operate a digital monitor(s) and peripherals from just a few meters away to up to 40 kilometers away from the controlling computer securely and without loss of resolution. The VelocityKVM system is designed to support PS2, full duplex stereo audio, serial (RS-232), USB 1.0 (HID) and USB 2.0 (up to 480 Mbps).

VelocityKVM products are ideally suited for a wide range of applications in the broadcast and post-production field, as well as command and control centers, universities, large scale digital signage and other commercial KVM applications.

Theory of Operation

MRTS Technology

6.25 Gbps. Allows for Full Frame Rate Transmission of Uncompressed DVI

Powered by Thinklogical"s cutting edge, patent-pending MRTS (**M**ulti **R**ate **T**ransmission **S**ystem) technology, this KVM extension system transports every frame of a DVI video stream seamlessly, with no compression or dropped frames. In addition, all high speed peripherals function with no latency. Leveraging standard SFP+ transceivers, the system allows for the use of either multi-mode or single-mode fiber optic cable.

The System

The VelocityKVM Extension System has a simple transmitter/receiver design which allows for ease of installation and straight-forward deployment. Depending on the user"s infrastructure, the transmitter and the receiver can be connected by a multi-mode or single-mode fiber optic cable. The transmitter unit connects to the CPU with the supplied peripheral cables. In addition, a local video, keyboard and mouse port is available on the transmitter. The receiver unit provides connections to the user interface devices.

Why Fiber?

The limit on how much bandwidth or data that can be carried across a copper line can become a bottleneck for enterprise access and ultimately, for revenue. This bottleneck often appears in heavy-volume, metropolitan area networks. Fiber Optic Cable alleviates this problem by offering substantially greater bandwidth.

The VelocityKVM Distance (up to 350m using 50/125µm fiber)

Multi-mode fiber is designed for transmission distances such as those found within a single building or facility and so is ideal for multi-channel television broadcast systems. Multi-mode fiber can be used to send video signals from room to room or floor to floor. The VelocityKVM allows for video and peripheral transmission distances up to 350 meters using 50/125µm fiber, making it an ideal solution for in-house applications.

Advanced Top Quality Video Transmission

Fiber Optic Cable has emerged as a logical solution for next-generation signal routing. The VelocityKVM product family harnesses this capability and ensures long distance, error-free transmission with no frame or bit dropping and complete immunity to interference. The end result is ***no degradation of the video or peripheral signals whatsoever.***